National Institute of Environmental Health Sciences

Short communication on regional climate change scenarios and their possible use for impact studies on vector-borne diseases

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Abstract:

Atmospheric observations demonstrate that, during the last decades, the climate has changed. As reported by the Intergovernmental Panel on Climate Change (IPCC, 2001, 2007), a mean increase of temperature by 0.09 K per decade was observed globally from 1951 to 1989. Up to now, 2008, this trend has continued. Europe experienced an extraordinary heat wave in summer 2003, with daily mean temperatures being about 10 degrees warmer than the long-term mean. The increase of temperature varies depending on the region and season. It seems to be accompanied by changes in several hydro-meteorological quantities, like number and duration of heat waves, frost periods, storminess, or precipitation. In some regions of Germany, for example, winter precipitation has increased by more than 30% within the last four decades. In addition, very intense precipitation was observed in summer 2002 in parts of the Elbe drainage basin, which faced a severe flooding. The quantification of these changes and their possible impacts on health is a very important topic, for which regional climate change scenarios provide useful information. The analyses of possible climate change focusing on hydro-meteorological quantities, which have a major influence on vectors and rodent reservoirs will be an ongoing challenge for future research.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Precipitation, Temperature

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Europe

European Region/Country: European Region

Other European Region: Central

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Vectorborne Disease

Vectorborne Disease: General Vectorborne

Model/Methodology: ☑

type of model used or methodology development is a focus of resource

Methodology

Resource Type: ☑

format or standard characteristic of resource

Research Article, Research Article

Timescale: ☑

time period studied

Time Scale Unspecified